

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P561368

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561368
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-2HI-35-UNV-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5354.0 lumens
Efficiency: N/A
Efficacy: 62.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

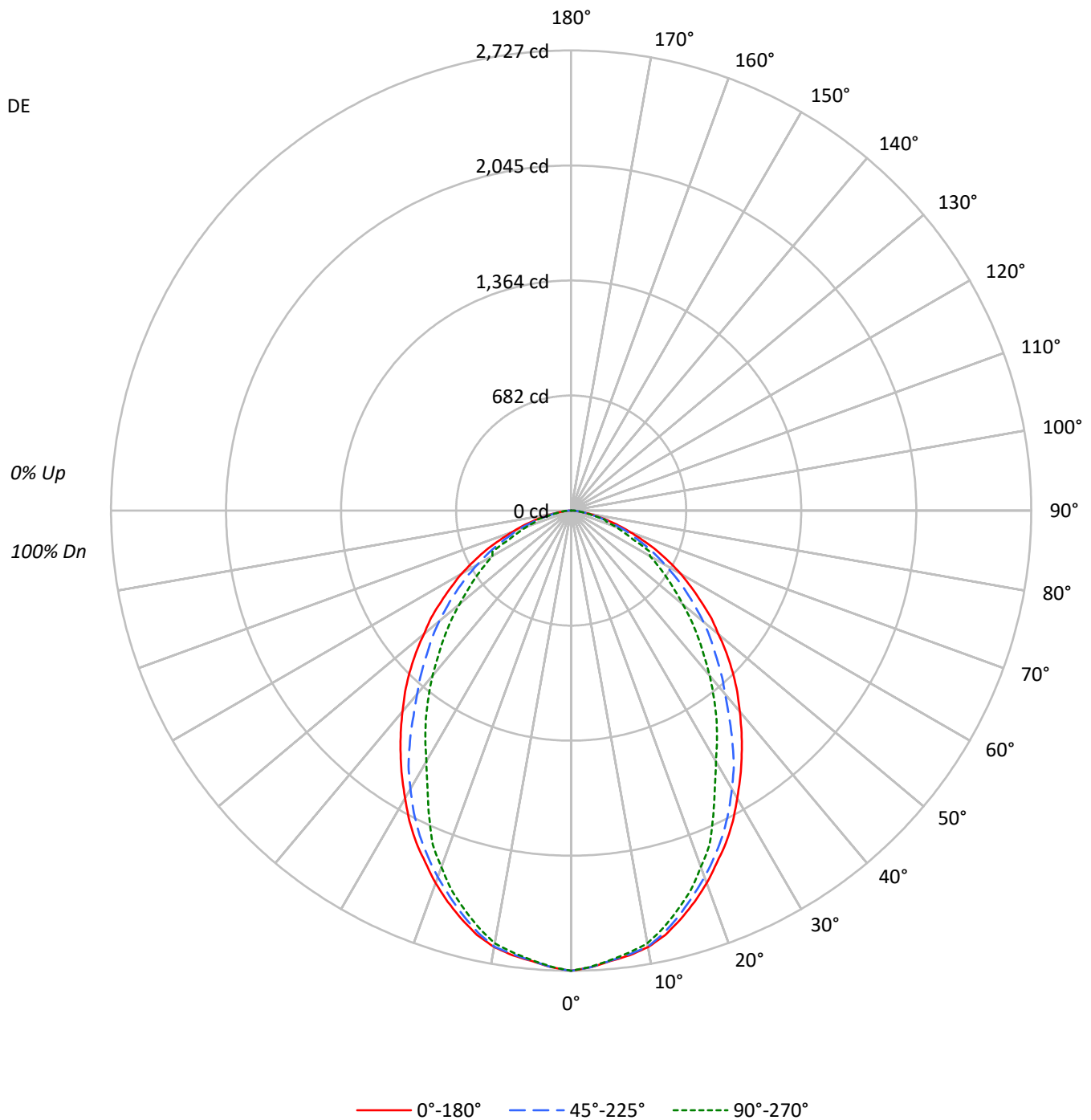
Input Watts (W): 86.4
Input Voltage (V):
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									
RC	80									70									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7339	7339	7339
5°	7239	7231	7222
10°	7177	7168	7116
15°	6983	6913	6816
20°	6726	6618	6438
25°	6450	6310	5916
30°	6113	5917	5330
35°	5790	5469	4930
40°	5460	4984	4486
45°	5147	4607	4056
50°	4765	4276	3617
55°	4408	3876	3240
60°	4039	3462	2901
65°	3554	3032	2570
70°	2927	2655	2183
75°	2328	2033	2130
80°	1564	1466	1368
85°	973	1167	1362

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5147 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	253.9	4.7
10°-20°	696.7	13.0
20°-30°	964.6	18.0
30°-40°	1028.5	19.2
40°-50°	938.3	17.5
50°-60°	735.1	13.7
60°-70°	479.1	8.9
70°-80°	212.3	4.0
80°-90°	45.6	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1915.2	35.8
0°-40°	2943.7	55.0
0°-60°	4617.1	86.2
0°-90°	5354.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5354.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2727	2727	2727	2727	2727	
5°	2680	2677	2677	2674	2674	254
15°	2507	2507	2481	2456	2447	705
25°	2172	2160	2125	2049	1993	997
35°	1762	1750	1665	1539	1501	1102
45°	1353	1324	1211	1110	1066	1042
55°	940	911	826	728	690	843
65°	558	526	476	486	404	550
75°	224	208	196	186	205	240
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2727.3	2727.3	2727.3	2727.3	2727.3
2.5°	2708.3	2708.3	2708.3	2705.2	2705.2
5°	2680.0	2676.8	2676.8	2673.7	2673.7
7.5°	2657.9	2654.7	2651.6	2648.4	2642.1
10°	2626.4	2626.4	2623.2	2607.4	2604.3
12.5°	2575.9	2572.8	2560.2	2538.1	2531.8
15°	2506.6	2506.6	2481.3	2456.1	2446.6
17.5°	2430.9	2427.7	2396.2	2371.0	2358.4
20°	2348.9	2342.6	2311.1	2270.1	2248.0
22.5°	2257.5	2257.5	2219.6	2166.0	2144.0
25°	2172.3	2159.7	2125.1	2049.4	1992.6
27.5°	2074.6	2055.7	2017.9	1910.7	1844.4
30°	1967.4	1957.9	1904.3	1765.6	1715.2
32.5°	1866.5	1850.8	1794.0	1649.0	1608.0
35°	1762.5	1749.9	1664.7	1538.6	1500.8
37.5°	1658.4	1642.7	1535.5	1434.6	1387.3
40°	1554.4	1535.5	1418.8	1327.4	1276.9
42.5°	1456.6	1431.4	1317.9	1220.2	1163.4
45°	1352.6	1324.2	1210.7	1109.8	1065.7
47.5°	1248.5	1223.3	1119.3	1015.2	964.8
50°	1138.2	1116.1	1021.5	917.5	863.9
52.5°	1046.8	1012.1	920.6	816.6	772.5
55°	939.6	911.2	826.1	728.3	690.5
57.5°	841.8	813.4	734.6	643.2	611.7
60°	750.4	709.4	643.2	564.4	539.1
62.5°	649.5	618.0	561.2	495.0	526.5
65°	558.1	526.5	476.1	485.5	403.6
67.5°	457.2	441.4	397.3	353.1	340.5
70°	372.0	353.1	337.4	290.1	277.5
72.5°	296.4	277.5	255.4	230.2	220.7
75°	223.9	208.1	195.5	186.0	204.9
77.5°	154.5	148.2	138.7	129.3	126.1
80°	100.9	97.7	94.6	91.4	88.3
82.5°	59.9	59.9	59.9	59.9	59.9
85°	31.5	34.7	37.8	41.0	44.1
87.5°	18.9	18.9	22.1	25.2	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)